IN THE CLAIMS

Claims 1-48 (canceled)

Claim 49 (currently amended):   A method of screening a combinatorial library of materials comprising:

        mechanically perturbing an array of a plurality of materials by contacting at least two of the materials simultaneously with probes; and

        monitoring, with a sensor, a force exerted by each of the materials in response the response of the materials to the mechanical perturbations.

Claim 50 (currently amended):   The method of claim 49, wherein the monitoring step comprises the response of the materials to the mechanical perturbations includes measuring, with the sensor, forces exerted on the probes by the materials material samples as functions of displacement of a portion of the material or displacement of the probe between the probes and the materials.

Claim 51 (currently amended):   The method of claim 49, wherein the monitoring step comprises the response of the materials to the mechanical perturbations includes measuring, with the sensor, forces exerted on the probes by the materials material samples as functions of time.

Claim 52 (currently amended):   The method of claim 49, further comprising relating the monitored force response of the array of materials to flexure, uniaxial extension, biaxial compression, shear, indentation, stress and strain at failure, tack, loop tack, melt flow index, Young's modulus, hardness, viscosity, storage modulus, or loss modulus or combinations thereof of the material.

Claim 53 (currently amended):   The method of claim 49, wherein the method is capable of screening at least twelve materials are simultaneously mechanically perturbed.

Claim 54 (currently amended):   The method of claim 49, wherein the method is capable of screening at least forty-eight materials are simultaneously mechanically perturbed.

Claim 55 (currently amended):   The method of claim 49, wherein the method is capable of screening at least ninety-six materials are simultaneously mechanically perturbed.